Appl. No. 10/080,730 Amdt. dated July 10, 2003 Reply to Office action of April 10, 2003

## REMARKS/ARGUMENTS

The Examiner has objected to FIGS. 2a, 2b, 3, 4, 8, and 14.

Proposed drawing corrections are attached hereto for the

Examiner's approval. The objected-to-figures have been deleted,
the remaining figures renumbered, and the specification amended
in accordance therewith.

The Examiner has rejected all of the claims as being anticipated by Lampman et al.

Lampman et al. teaches cylindrical gradient coils. For example, see col. 4, lines 13-16, col. 5, lines 14-17, col. 5, lines 27-31, and FIGS. 2, 3, and 5. FIG 3, shows the coils from the side, with loops of the coils foreshortened into/out of the page. In Lampman et al., the patient's head goes inside of these loops.

The present invention claims a coil set that includes a uniplanar, and two biplanar gradient coils. Lampman et al. does not show or teach any such planar structures.

It is respectfully submitted that the present invention is not anticipated by Lampman et al.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is now in condition for allowance and notification of same is requested.

If any fees are required by this communication, please

Appl. No. "10/080,730 Amdt. dated July 10, 2003 Reply to Office action of April 10, 2003

charge such fees to our Deposit Account No. 16-0820, Order No. 33356US1.

Respectfully submitted,

PEARNE & GORDON LLP

James M. Moore, Reg. No. 32923

526 Superior Avenue East Suite 1200 Cleveland, Ohio 44114-1484 (216) 579-1700

Date: July 10, 2003



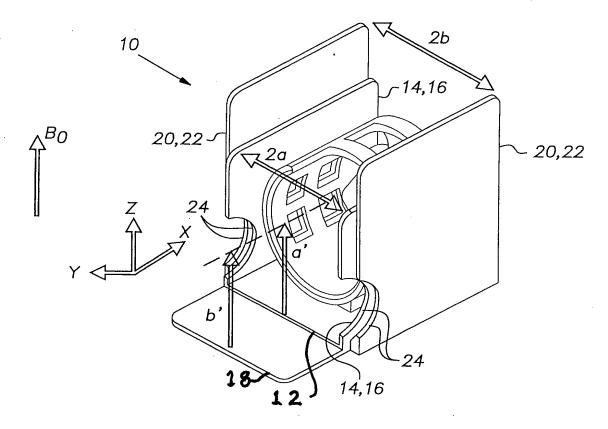


Fig. 1



F\G.2B

10.00E - 03 10.00E - 03 10.00E - 03 10.00E - 03 4.00E-02 4.00E-02 4.00E-02 4.00E-02 4.00E-02 4.01E-04 4.02E-04 1.65E-03 1.64E-03 1.60E-03 1.60E-03 1.61E-03 1.61E-03 1.61E-03 1.62E-03 2.02E-03 2.03E-03 2.03E-03 2.03E-03 2.03E-03 2.03E-03 2.11E-03 2.03E-03 2.03E-03 2.12E-03 2.03E-03 2.16E-03 2.1 7.00E-02 7.00E-02 2.83E-03 2.84E-03 2.86E-03 10.00E-02 10.00E-02 10.00E-02 5.22E-03 5.74E-03 4.02E-04 4.03E-04 7.00E-02 6.04E-03 7.00E - 02 7.00E - 02 7.00E - 02 2.90E - 03 2.98E - 03 3.07E - 03 3.17E - 03 3.17E - 03 3.16E - 03 3.23E - 03 3.23E - 03 3.23E - 03 3.24E - 03 3.25E - 03 3.25E - 03 3.26E - 03 3.274E - 03 3.274 10.00E-02 5.96E-03 10.00E - 03 10.00E - 03 10.00E - 03 10.00E - 03 4.03E - 04 4.02E - 04 3.99E - 04 3.92E - 04 3.92E - 04 4.02E - 04 4.02E - 04 4.03E - 04 4.03E - 04 4.03E - 04 4.03E - 04 3.99E - 04 3.77E - 04 3.77E - 04 3.21E - 04 8.03E - 04 8.05E - 04 7.19E - 04 8.05E - 04 8.05E - 04 8.05E - 04 7.19E - 04 4.36E-03 4.37E-03 4.33E-03 0.11 4.00E - 02 4.00E - 02 4.00E - 02 7.00E - 02 7.00E - 02 7.00E - 02 7.00E - 02 8.00E - 02 9.00E - 02 0.11 10.00E-03 4.30E-03 4.33E-03 4.51E-03 0.11 4.00E-02 4.00E-02 4.00E-02 4.00E-02 4.00E-02 4.00E-02 5.00E-02 0.11 0.11 5.12E-03 0.11 5.12E-03 6.06E-03 6.97E-03 7.58E-03 7.63E-03 4.36E-03 0.11 0.11 0.11 0.11 0.11 5.00E-02 6.00E-02 0.11 4.33E-03 4.30E-03 4.33E-03 4.51E-03 5.12E-03 6.06E-03 7.57E-03 7.63E-03 4.60E-03 4.74E-03 4.52E-03 4.59E-03 4.56E-03 4.47E-03 5.38E-03 0.11 0.11 0.11 10.00E - 03 10.00E - 03 2.00E - 02 0.11 0.11 0.11 0.11 0.11 0.12 0.12 0.12 0.12 0.12 0.12 0.12 7.00E-03 8.52E-03 9.62E-03 2.00E - 02 3.00E - 02 9.00E - 02 10.00E - 02 9.90E-03 4.60E-03 4.74E-03 4.62E-03 4.59E-03 4.56E-03 4.56E - 03 4.47E - 03 5.38E - 03 7.00E - 03 8.52E - 03 9.90E - 03 4.25E - 03 4.75E - 03 4.75E - 03 5.09E - 03 3.64E - 03 3.71E - 03 3.87E - 03 4.14E - 03 4.46E - 03 4.74E - 03 4.74E - 03 4.85E - 03 4.00E - 03 4.00E - 03 3.98E - 03 4.66E - 03 4.67E - 03 5.22E - 03 5.22E - 03 6.04E - 03 4.00E - 03 1.20E-03 1.17E-03 1.10E-03 1.21E-03 1.21E-03 1.21E-03 1.22E-03 1.22E-03 1.22E-03 1.20E-03 1.10E-03 1.10E-03 1.61E-03 1.61E-03 1.62E-03 1.62E-03 5.09E-03 3.67E-03 5.06E-03 8.23E-03 1.05E-02 1.24E-02 3.00E - 02 4.00E - 02 4.26E-03 5.41E-03 4.75E-03 4.78E-03 5.08E-03 3.67E-03 0.13 0.13 0.13 0.13 0.13 5.06E-03 8.23E-03 1.05E-02 1.24E-02 1.3 E-02 4.00E-02 4.00E-02 4.00E-02 10.00E-02 10.00E-02 10.00E-02 3.99E-03 4.06E-03 4.26E-03 3.21E-03 3.16E-03 2.97E-03 2.83E-03 4.00E-02 4.00E-02 7.00E - 02 7.00E - 02 1.64E-03 10.00E-02 4.67E-03



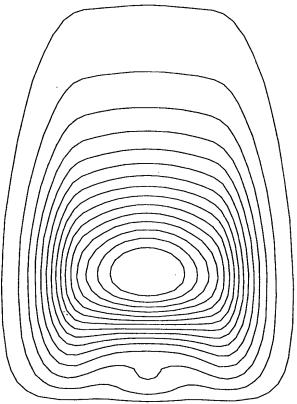
## †ıG.3

0.00E+01 10.00E+03 2.00E-02 3.91E-04 7.80E-04 3.00E-02 1.55E-03 1.92E-03 1.92E-03 2.28E-03 7.00E-02 3.28E-03 3.28E-03 3.28E-03 3.28E-03 3.28E-03 3.28E-03 3.28E-03 3.30E-02 0.11 0.12 0.13 0.12 0.13 0.14 0.15 0.15 0.17 0.100E-02 10.00E-03 3.91E-04 3.00E-03 3.91E-03 3.28E-03 3.91E-03 3.28E-03 3.28E-03

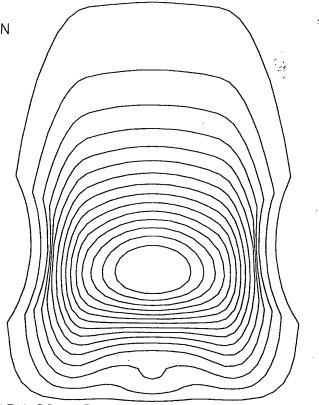
## FIG.4

0.00E+01 401E-04 8.05E-04 0.00E + 010.00E + 010.00E+01 10.00E-03 2.00E-02 3.00E-02 4.00E-02 5.00E-02 7.00E-02 8.00E-02 9.00E-02 10.00E-02 0.00E + 0110.00E-03 2.00E-02 2.92E-04 6.10E-04 9.81E-03 8.05E-04 1.21E-03 1.62E-03 2.03E-03 2.44E-03 2.84E-03 3.23E-03 3.61E-03 4.26E-03 4.74E-03 0.00E+04 8.03E-04 2.00E - 02 3.00E - 02 4.00E - 02 5.00E - 02 6.00E - 02 7.00E - 02 9.00E - 02 10.00E - 02 9.61E-03 1.43E-03 1.96E-03 2.57E-03 3.26E-03 3.99E-03 4.73E-03 4.73E-03 5.44E-03 6.08E-03 6.63E-03 7.05E-03 0.00E+01 1.88E-04 4.13E-04 7.17E-03 1.71E-03 2.44E-03 0.11 0.12 0.00E+01 10.00E-03 2.00E-02 3.00E-02 4.00E-02 5.00E-02 7.00E-02 8.00E-02 0.12 0.13 0.13 0.00E+01 10.00E-03 2.00E-02 3.00E-02 4.00E-02 5.00E-02 7.00E-02 8.00E-02 9.00E-02 10.00E-02 8.03E-04 1.21 E-03 1.63E-03 1.63E-08 2.05E-03 2.47E-03 2.89E-03 3.31E-03 3.70E-03 4.07E-03 4.68E-03 4.91E-03 2.44E-03 3.29E-03 4.22E-03 5.17E-03 6.09E-03 9.00E-02 10.00E-02 0.11 0.11 0.12 0.13 0.12 0.13 7.63E - 03 8.16E - 03 0.00E + 01 2.64E - 05 8.15E - 05 2.40E - 04 5.94E - 03 2.08E - 03 3.18E - 03 4.42E - 03 5.71E - 03 6.95E - 03 9.00E + 01 -1.55E - 04 -4.14E - 04 -4.14E - 04 -4.12E - 04 -4.12E - 04 2.04E - 04 2.04E - 04 2.04E - 04 2.10E - 03 3.16E - 03 1.07E - 03 1.07E - 03 1.07E - 03 4.58E - 03 1.17E - 03 2.83E - 03 1.17E - 03 4.58E - 03 1.17E - 03 2.28E - 03 1.17E - 03 4.58E - 03 1.17E - 03 2.28E - 03 4.58E - 03 1.07E - 01 6.80E - 03 1.73E - 03 4.65E - 03 7.33E - 03 4.91E - 03 0.00E + 01 3.94E - 04 7.95E - 04 1.21E - 03 1.63E - 03 2.07E - 03 2.97E - 03 3.86E - 03 4.26E - 03 4.95E - 03 4.95E - 03 0.00E + 01 3.81E - 04 7.71E - 04 1.18E - 03 1.62E - 03 2.57E - 03 3.58E - 03 4.95E - 03 5.63E - 03 4.95E - 03 1.62E - 03 2.57E - 03 3.58E - 03 4.95E - 03 2.57E - 03 3.58E - 03 4.95E - 03 2.57E - 03 3.58E - 03 4.95E - 03 3.58E - 03 0.13 0.00E+01 10.00E-03 2.00E-02 3.00E-02 4.00E-02 5.00E-02 7.00E-02 8.00E-02 9.00E-02 10.00E-02 0.13 0.00E+01 10.00E-03 2.00E-02 3.00E-02 4.00E-02 5.00E-02 7.00E-02 8.00E-02 9.00E-02 10.00E-02 10.00E-02 0.11 0.12 0.13 0.00E+01 10.00E-02 3.00E-02 4.00E-02 5.00E-02 6.00E-02 7.00E-02 9.00E-02 10.00E-02 0.11 0.12 0.11 0.12 0.13 0.00E+01 10.00E-03 2.00E-02 3.00E-02 4.00E-02 5.00E-02 6.00E-02 9.00E-02 10.00E-03 2.00E-02 4.00E-02 3.00E-02 4.00E-02 5.00E-02 4.00E-02 5.00E-02 10.00E-02 10.00E-02 10.00E-02 10.00E-02 10.00E-02 0.12 0.13 0.13 0.00E+01 10.00E-03 2.00E-02 3.00E-02 4.00E-02 5.00E-02 7.00E-02 8.00E-02 9.00E-02 10.00E-02 3.77E-03 4.37E-03 4.93E-03 7.33E-03 9.62E-03 1.7E-02 1.33E-02 0.11 5.45E-03 0.12 5.89E-03 6.23E-03 0.12 1.45E-02



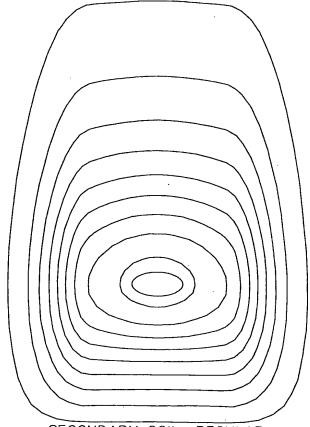


PRIMARY COIL: REGULAR
BIPLANAR Y GRADIENT PATTERN
FIG. 52

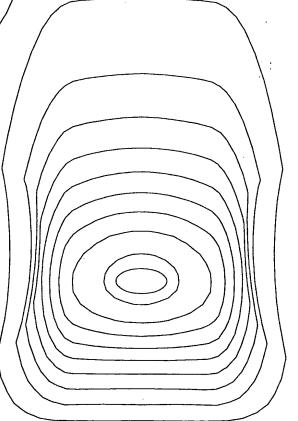


PRIMARY COIL: PARABOLIC CUT-OFFS FOR THE BIPLANAR Y GRADIENT PATTERN
FIG. \$3





SECONDARY COIL: REGULAR
BIPLANAR Y GRADIENT PATTERN
FIG. A



SECONDARY COIL: PARABOLIC CUT-OFFS FOR THE BIPLANAR Y GRADIENT PATTERN



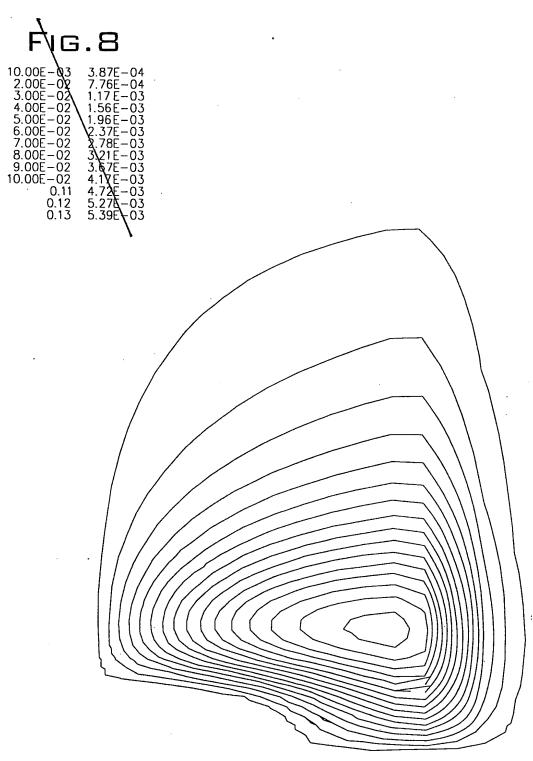


FIG. 9 5



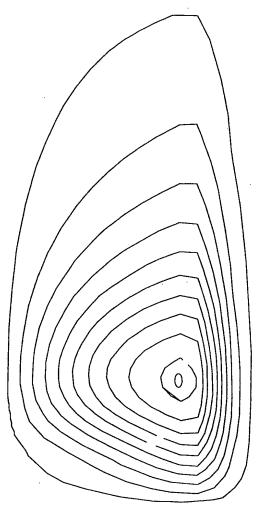


FIG. 10 6

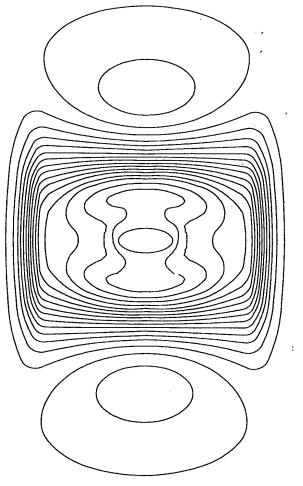


Fig. № 7



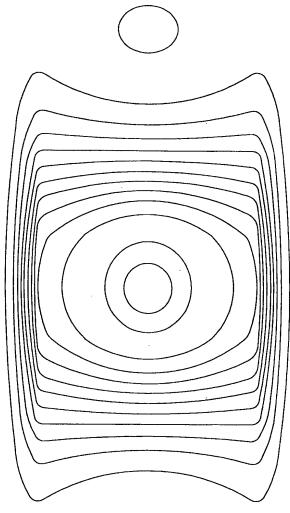


Fig. 1-2.8

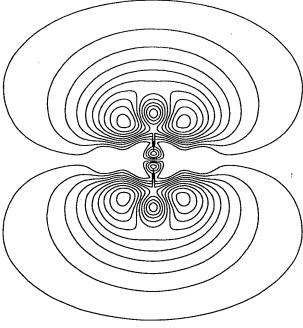


FIG. 18 9



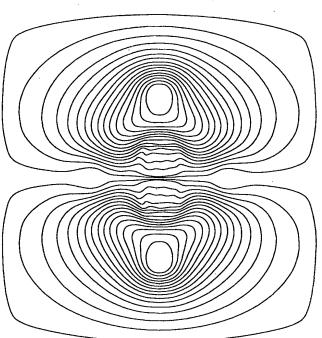
FIG. 14

0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	6.25E-02 6.88E-02 7.50E-02 8.13E-02 9.38E-02 0.1 0.10625 0.1125 0.1125 0.00E+01 6.25E-03 1.25E-02 1.88E-02 2.50E-02 3.13E-02 4.38E-02 4.38E-02 5.63E-02	0.55	33333333344444444444444444444444444444	7.50E-02 8.13E-02 9.38E-02 0.10625 0.11875 0.00E+03 1.25E-02 1.88E-02 2.53E-02 3.75E-02 4.38E-02 5.63E-02 6.88E-02 5.63E-02 6.88E-02 0.11875 0.00E-03 1.25E-02 0.11875 0.00E-03 1.25E-02 3.13E-02 9.38E-02 0.11875 0.00E-03 1.25E-02 3.13E-02 3.13E-02 3.13E-02 5.63E-02 6.88E-02 7.50E-02 6.25E-02 6.88E-02 7.50E-02 6.25E-02	5.07E-04 7.61E-04 1.02E-03 1.27E-03 1.53E-03 2.06E-03 2.32E-03 2.59E-03 2.59E-03 3.13E-03 3.3E-03 3.92E-03 4.18E-03 4.43E-03 4.67E-03 4.91E-03 0.00E+01 2.47E-04	0.17777777777777777888888888888888888888	2.50E-02 3.13E-02 4.38E-02 5.63E-02 6.88E-02 6.88E-02 7.50E-02 6.88E-02 7.50E-02 8.13E-02 0.10625 0.01125 0.00E+03 1.25E-02 1.88E-02 3.75E-02 4.38E-02 3.75E-02 4.38E-02 3.13E-02	9.89E - 0.0 1.49E - 0.0 1.49E - 0.0 1.79E - 0.0 1.79E - 0.0 2.75E - 0.0 3.55E - 0.0 3.55E - 0.0 3.55E - 0.0 3.55E - 0.0 4.65E - 0.0 1.66E
0.13 0.13 0.13 0.13 0.13 0.13	1.88E-02 2.50E-02 3.13E-02 3.75E-02 4.38E-02 5.00E-02	7.78E-04 1.04E-03 1.31E-03 1.58E-03 1.86E-03 2.15E-03	0.16 0.16 0.16 0.16 0.16 0.17	9.38E-02 0.1 0.10625 0.1125 0.11875 0.00E+01	3.92E-03 4.18E-03 4.43E-03 4.67E-03 4.91E-03 0.00E+01	0.2 0.2 0.2 0.2 0.2 0.2 0.2	3.75\( -02\) 4.38\( -02\) 5.00\( -02\) 5.63\( -02\) 6.25\( -02\) 7.50\( -02\)	1.53E-0 1.75E-0 1.97E-0 2.18E-0 2.40E-0 2.61E-0 2.82E-0



0.2 8.75E-02 30.2E-03 0.24 3.75E-02 8.66E-03 0.27 0.11625 2.58E-03 0.28 3.65E-03 0.24 4.38E-02 1.24E-03 0.27 0.11870 2.62E-03 0.24 4.38E-02 1.24E-03 0.27 0.11870 2.62E-03 0.24 0.10825 3.40E-03 0.24 6.25E-02 1.75E-03 0.28 6.25E-02 2.81E-04 0.2 0.11875 3.94E-03 0.24 6.25E-02 1.75E-03 0.28 6.25E-02 2.81E-04 0.2 0.11875 3.94E-03 0.24 6.25E-02 1.75E-03 0.28 6.25E-02 2.81E-04 0.2 0.11875 3.94E-03 0.24 6.25E-02 1.92E-03 0.28 6.25E-02 2.81E-04 0.2 0.00E-01 0.00NE-01 0.24 7.50E-02 2.05E-03 0.28 8.3E-02 2.50E-02 5.61E-04 0.2 0.12 2.50E-03 2.09NE-04 0.24 8.75E-02 2.25E-03 0.28 3.75E-02 8.38E-04 0.2 2.55E-03 2.09NE-04 0.24 8.75E-02 2.25E-03 0.28 3.75E-02 8.38E-04 0.2 1.25E-02 4.18E-04 0.24 8.75E-02 2.25E-03 0.2 0.28 3.75E-02 8.38E-04 0.2 1.25E-02 4.36E-02 6.27E-04 0.24 9.36E-02 2.55E-03 0.2 8.36E-04 0.24 0.2 1.25E-02 1.05E-03 0.24 0.24 0.1025 3.36E-03 0.28 6.35E-02 9.75E-02 0.2 1.25E-03 0.2 1.05E-02 1.05E-03 0.2 1.25E-03 0.2 1	(FROM SH	EET 9)	0.24	2.50E-02	7.11 E-04	0.27	0.1	2.26E-03
5.2, 1.550 02 0.510 01 1 0.27 5.500 02 2.150 05 1	0.2	3.02E-03 3.02E-03 3.02E-03 3.02E-03 3.00E-01 2.02EE-03 3.00E-01 2.00E-01 4.187E-03 1.26E-03 1.26E-03 1.26E-03 1.26E-03 1.26E-03 1.26E-03 1.26E-03 1.26E-03 1.26E-03 1.277E-03 2.247E-03 2.247E-03 3.25E-03 3.25E-03 3.25E-03 3.25E-03 3.25E-03 3.25E-03 3.35E-03	$\begin{array}{c} 0.0244444444444444444444444444444444444$	3.13E - 02 3.75E - 02 4.38E - 02 5.63E - 02 6.88E - 02 7.50E - 02 6.88E - 02 7.50E - 02 8.75E - 02 9.38E - 02 0.11875 0.00E + 03 0.00E + 03 1.88E - 02 1.88E - 0	8.87 E - 04 1.06 E - 03 1.24 E - 03 1.24 E - 03 1.41 E - 03 1.58 E - 03 1.75 E - 03 2.08 E - 03 2.26 E - 03 2.26 E - 03 2.36 E - 03 2.36 E - 03 3.14 E - 03 3.14 E - 04 3.36 E - 04 3.36 E - 04 5.74 E - 04 5.74 E - 03 1.37 E - 03 1.49 E - 04 5.74 E - 03 1.37 E - 03 1.49 E - 03 1.59 E - 03 2.26 E - 03 2.36 E - 03 1.59 E - 03 2.36 E - 03 2.37 E - 03 2.36 E - 03 3.17 E - 04 4.75 E - 03 3.18 E - 03 3.19 E - 03 3.19 E - 03 3.19 E - 03 3.10 E - 03 3.10 E - 03 3.11 E - 03 3.12 E - 03 3.13 E - 03 3.14 E - 03 3.15 E - 03 3.16 E - 03 3.17 E - 04 4.75 E - 04 4.75 E - 03 3.16 E - 03 3.17 E - 04 4.75 E - 03 3.17 E - 03 3.18 E - 03	0.000.000.000.000.000.000.000.000.000.	0.1125 0.11875 0.00E+01 6.25E-03 1.25E-02 1.85E-02 2.50E-02 3.75E-02 4.38E-02 5.63E-02 6.85E-02 6.85E-02 6.85E-02 9.38E-02 0.1125 0.11875 0.00E+01 6.25E-03 1.25E-02 1.88E-02 2.50E-02 3.13E-02 3.13E-02 3.13E-02 4.38E-02 2.50E-02 6.25E-03 1.25E-02 1.88E-02 2.50E-02 6.25E-02 6.35E-02 6.25E-02 6.35E-02	2.50E-03 2.62E+01 2.62E+01 2.61E-04 4.21E-04 4.561E-04 4.561E-04 4.561E-04 4.561E-04 4.561E-04 4.561E-03 1.38E-03 1.31E-03 1.31E-03 1.31E-03 1.31E-03 1.31E-03 1.31E-03 1.31E-03 1.31E-03 1.31E-03 1.31E-04 2.35E-04 2.35E-04 2.35E-04 2.35E-04 2.35E-04 2.35E-04 2.35E-04 2.35E-03 1.36E-03 1.37E-03 1.37E-03 1.37E-03 1.37E-03 1.37E-04 2.31E-04 2.31E-04 2.31E-04 2.31E-04 2.31E-04 2.31E-04 3.31E-04





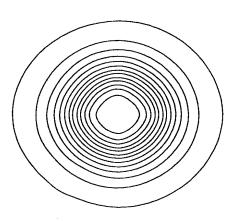


FIG. 15 10



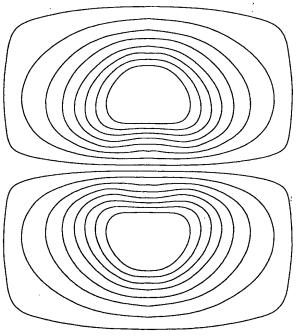


FIG. 1-68 118



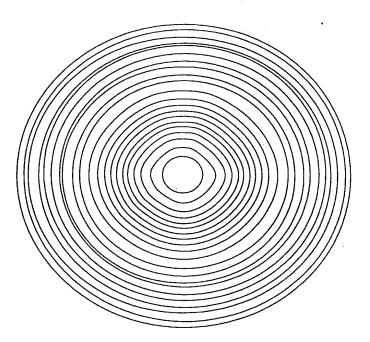


FIG. >74 12A

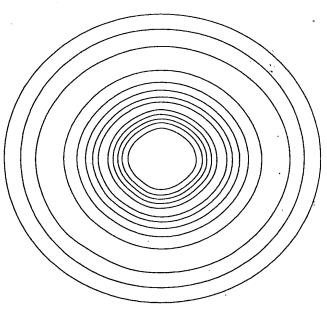


FIG. 178 12B



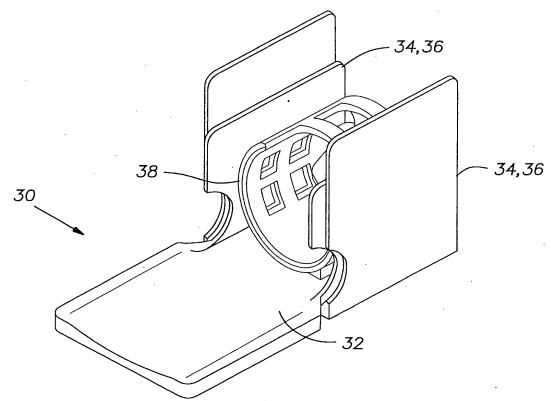


FIG. 13

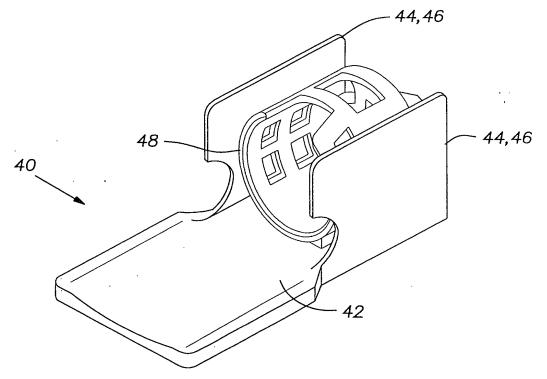


FIG. 19 14



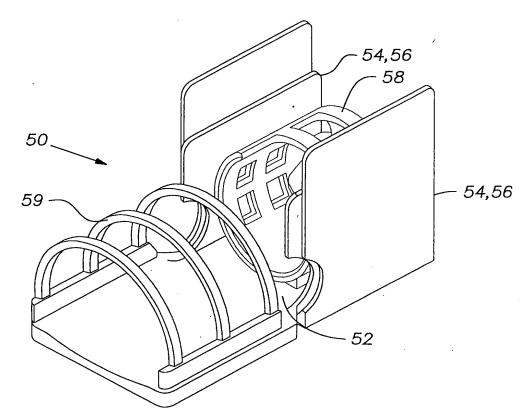


FIG. 20 15

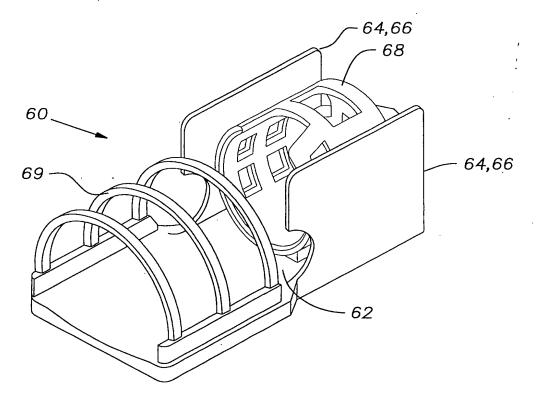


FIG. 21 16



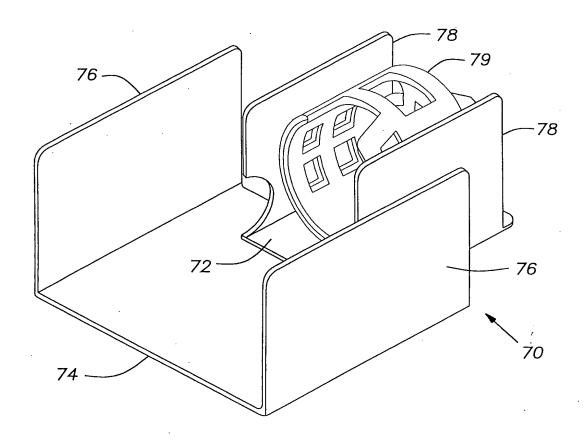


FIG. 22 17



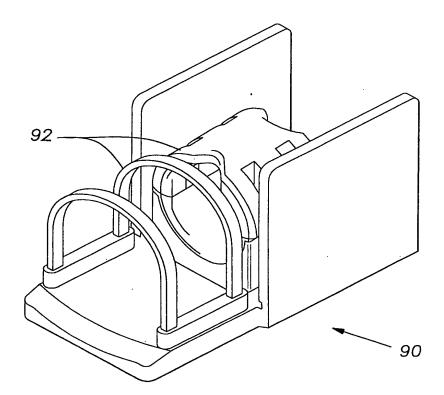


Fig. 23 18

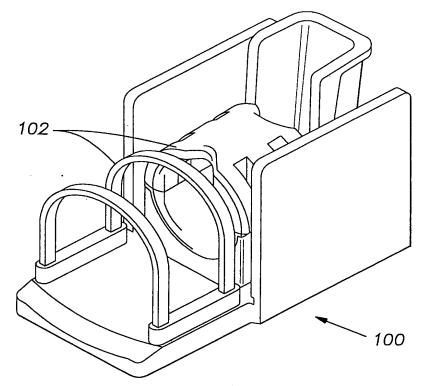


FIG. 24 19